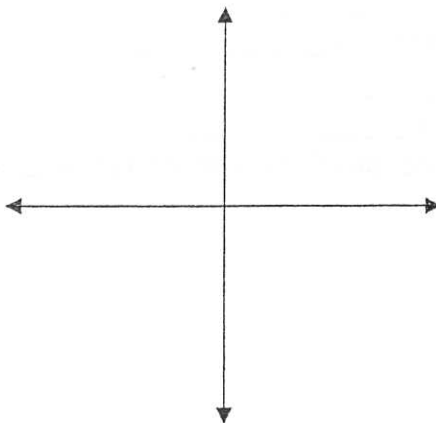


1. Graph: $y > 2$
 $x \leq 5$



2. Solve each inequality.

a. $x^2 - 3x - 10 > 0$

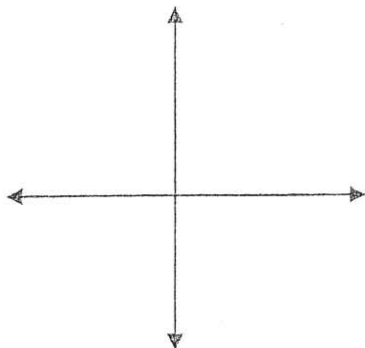
b. $x^3 - 25x < 0$

3. Provide the following information about the function: $y = x^2 - 2x - 8$

- The graph opens _____
- The axis of symmetry is _____
- The vertex is _____
- Circle one: The vertex is a (minimum or maximum) point.
- The x-intercepts are _____ and _____
- The y-intercept is _____
- The point of reflection to the y-intercept is _____

4. Provide the following information about the function: $y > -(x - 2)^2 + 1$

- a. The graph opens _____
- b. The axis of symmetry is _____
- c. The vertex is _____
- d. The y-intercept is _____
- e. The point of reflection of the y-intercept is _____
- f. Sketch the graph.



5. Write an equation of a quadratic function in vertex form whose graph translates 4 units to the left and one unit down from the parent function.

Simplify.

6. $5x^2 + 3x - 4 - (2x + 4x^2 - 3)$

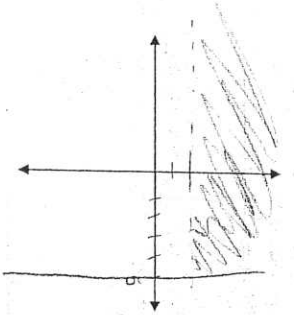
7. $(4x^{-4}y^3)^{-1}$

8. $(5a^2b^{-7}c)(-2a^{-2}b^3c^2)$

9. $\frac{12c^{-5}}{18c^8}$

10. $(3x + 4)(x^2 - 5x - 3)$

1. Graph: $y > 2$
 $x \leq 5$



2. Solve each inequality.

a. $x^2 - 3x - 10 > 0$

$(x-5)(x+2) > 0$

$x < -2$ or $x > 5$

b. $x^3 - 25x < 0$

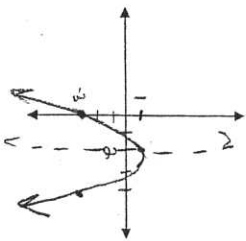
$-5 < x < 5$

3. Provide the following information about the function: $y = x^2 - 2x - 8$

- a. The graph opens up
b. The axis of symmetry is $x = 1$
c. The vertex is $(1, -9)$
d. Circle one: The vertex is a minimum (or maximum) point.
e. The x-intercepts are $(4, 0)$ and $(-2, 0)$
f. The y-intercept is $(0, -8)$
g. The point of reflection to the y-intercept is $(2, -8)$

4. Provide the following information about the function: $y = -(x-2)^2 + 1$

- a. The graph opens down
b. The axis of symmetry is $x = 2$
c. The vertex is $(2, 1)$
d. The y-intercept is $(0, -3)$
e. The point of reflection of the y-intercept is $(4, -3)$
f. Sketch the graph.



5. Write an equation of a quadratic function in vertex form whose graph translates 4 units to the left and one unit down from the parent function.

$y = (x+4)^2 - 1$

Simplify.

6. $5x^2 + 3x - 4 - (2x + 4x^2 - 3)$

$5x^2 + 3x - 4 - 2x - 4x^2 + 3$

$x^2 + x - 1$

7. $(4x^4)^3$

$4^3 x^{12}$

8. $(5a^3b^7c)(-2a^3b^3c^2)$

$-10a^6b^{10}c^3$

$\frac{-10a^6b^{10}c^3}{64}$

9. $\frac{12c^5}{18c^8}$

$\frac{2}{3c^3}$

$\frac{2}{3c^3}$

10. $(3x+4)(x^2-5x-3)$

$3x^3 - 17x^2 - 12x - 12$